

Pines - The Important Distinctions

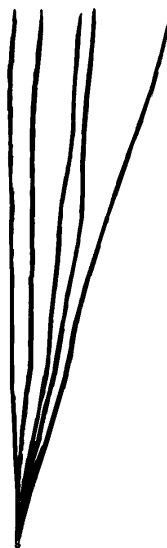
		E. White Pine <i>Pinus strobus</i>	Red Pine <i>Pinus resinosa</i>	Pitch Pine <i>Pinus rigida</i>	Jack Pine <i>Pinus banksiana</i>
N E E D L E S	Number/Cluster	Five.	Two.	Three.	Two.
	Length	3 - 5 inches.	4 - 6 inches.	3 - 5 inches.	$\frac{3}{4}$ - 1 $\frac{1}{2}$ inches.
	Description	Slender, flexible.	Flexible, straight.	Stout, not flexible, usually twisted, grow at right angles to the branchlets.	Stout, flat, twisted.
	Color	Bluish green.	Dark green.	Dark yellow green.	Light yellow green, later becoming dark green.
	Sheath	Shed in late August.	Persists.	Persists.	Persists.
C O N E S	Length	4 - 8 inches.	1 $\frac{1}{2}$ - 2 $\frac{1}{4}$ inches.	1 $\frac{1}{2}$ - 3 $\frac{1}{2}$ inches.	1 $\frac{1}{2}$ - 2 inches.
	Description	Borne on a long stalk; thin smooth scales without prickles.	Borne on short stalks; scales without prickles. Several basal scales remain on branches when cone drops.	Borne on a short stalk, having prickles on the cone scales, flat based when completely open. Often remain on branches for 10 - 12 years.	Much curved inward, without stalk. Prickles minute. Often remain on branches for many years.

EASTERN WHITE PINE

Pinus strobus L.

The abundance and value of eastern white pine in Maine has caused it to be known as the Pine Tree State. The designation has also resulted from Legislative action. Title 1 MRSA Sec. 211 originated with Resolves 1895 Chap. 3, approved Feb. 1, 1895, which stated "Resolved, That the Pine Cone and Tassel is hereby declared to be the floral emblem for Maine, in the National Garland of Flowers." Title 1 MRSA Sec. 208 originated with Resolves 1945 Chap. 8, effective July 21, 1945, which stated "Resolved: That the white pine tree be, and hereby is, designated the official tree of the State of Maine."

The availability and high quality of white pine lumber played an important part in the development and economy of Maine since 1605, when Captain George Weymouth of the British Royal Navy collected samples here and brought them back to England for display. Shortage of ship masts in Europe led to England's Broad Arrow Policy in 1691, whereby pines 24 inches or more in diameter within 3 miles of water were blazed with the **mark of the broad arrow**; such trees to be reserved for use in the Royal Navy. The term **King's Pine** originated from this policy. Most of the accessible virgin pine was cut by 1850. Lumber production reached its peak in 1909 but white pine is still a principal lumber species and continues to contribute greatly to the economy of the state.



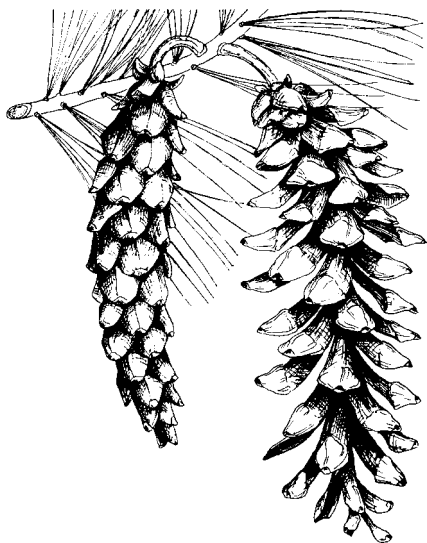
White pine occurs in all localities in the state in moist situations, on uplands, and on sandy soil, but develops best on fertile, well-drained soils. On sandy soil it often becomes established in pure, or nearly pure forests or groves. It is one of the major species planted in the state. The tree grows rapidly both in height and diameter, making an average height growth of one foot or more each year.

When growing in the open, the young tree is symmetrical and conical in outline except when deformed by white pine weevil. White pine weevil is an insect that kills the topmost shoot and often causes the tree to have multiple stems and a round profile. In the forest, a white pine tree has a narrow head, and the trunk is commonly free of branches for a considerable portion of its length.

pine weevil. White pine weevil is an insect that kills the topmost shoot and often causes the tree to have multiple stems and a round profile. In the forest, a white pine tree has a narrow head, and the trunk is commonly free of branches for a considerable portion of its length. Old forest trees have a broad and somewhat irregular head. The branches are horizontal, and in regular whorls, usually of 5 each. Very old trees often become very irregular and picturesque. The trunk tapers gradually, and the tree often attains a height of 100 feet. Commonly it is from 70-80 feet tall, and has a diameter of 1-3 feet.

The **bark** of young trees is smooth and thin, green with a reddish brown tinge over-all, or brown in spots. On old

trees, it is from 1-2 inches thick, very dark, and divided into broad, flat ridges by shallow fissures.



Leaves are in clusters of 5, flexible, from 3-5 inches long, bluish green but whitish on one side. The papery sheath

at the base of the new needle clusters falls in late August. The **cones** are 4-8 inches long, cylindrical and borne on a long stalk. They take 2 years to mature and open to discharge the seed shortly after ripening in late August through September of the second season.

The **wood** is light in color, and durable except when in contact with the soil. It is soft, not heavy, and is easily worked. The wood is used extensively for interior trim, doors, windows, cabinet making, sash and door manufacture, pattern making, furniture, small building construction, interior and exterior finish, and boat planking.

The sale of pine furniture is always active somewhere in North America. Lumber is sold from Newfoundland to Washington state and south into Mexico. Lower grade boards have clear sections cut to size for sale. These clear short pieces may also be finger-jointed to create longer lengths of clear wood. Pine shingles are also sawed. Any part of a pine not making log grade is used for pulp. Ceiling Tiles as well as paper are made from this pulp.

RED PINE

Pinus resinosa Ait.

Red or Norway pine, though common, is found only locally throughout the state, growing on dry, rocky ridges, or light, sandy soil. Groves are usually scattered through forests of other species. The beautiful "Cathedral Pines" occur near Eustis.

The young trees have the branches extending to the ground and form a conical outline. Later, the head is rounded and picturesque. Branches are generally horizontal. It attains a height of 60-80 feet, and a diameter of 2-3 feet. The trunk is straight and tapers slowly. Red pine is intolerant to shade.

The **bark** is divided into broad, flat ridges by shallow fissures.

The **leaves** are arranged in clusters of 2, and are 4-6 inches long, dark green, soft and flexible. They break cleanly, at a sharp angle, when doubled between the fingers.

The **cones** are much like an egg in shape, about 2 inches long, and borne on short stalks. The base of fallen cones is hollow. They mature in the fall of the second season and usually remain on the branches until the following summer. Cones may be collected for seeds from September throughout the fall and winter, due to their gradual release of seed.

The **wood** is a little heavier and harder than white pine, close grained, hard and fairly strong. It is used for lumber, poles, piles, building construction, and pulp. It treats readily with wood preservatives and therefore is a locally produced alternative to southern yellow pine. An expanding pole market allows for use of shorter stems removed in thinning. Older stands produce large, high-value poles.

Owing to the reddish bark, and the pale red heart wood, the name "red pine" is appropriate. The name "Norway pine" refers to its original finding near Norway, Maine. Since it infers that the tree is foreign in origin, use of this name is not encouraged.



JACK PINE

Pinus banksiana Lamb.

Jack or gray pine grows on sandy, rocky, shallow acid soils. It is known to occur naturally at Alamoosook Lake in Orland, Schoodic Point in Winter Harbor, Great Wass Island in Beals, Matagamon Lake, Cliff Lake, Lobster Lake, and in the areas south and west of Jackman.



The spreading branches are long and flexible and form an open head of symmetrical outline. At maturity the tree is about 50-60 feet tall, and 8-10 inches in diameter. Cones are often produced when the trees are only a few years old.

The **bark** is thin with irregular rounded ridges. It is dark brown in color, with a slight tinge of red. The **leaves** are in clusters of 2, and are $\frac{3}{4}$ to $1\frac{1}{2}$ inches long. They are stout, yellow-green at first, dark green later, rather flat, and twisted at the base. The **cones** require 2 years to mature, are rather slender, $1\frac{1}{2}$ - 2 inches long, and without a stalk. They are very much curved. The scales have minute prickles which are often deciduous. The cones usually remain closed for several years (unless exposed to extreme heat), and often do not fall for 12-15 years.

The **wood** is moderately hard, heavy, and close grained. It is used mostly for pulp.

PITCH PINE

Pinus rigida Mill.

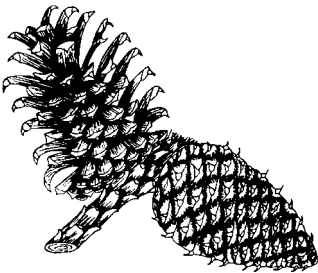
Pitch pine grows on sandy barrens or plains, and on gravely soil of the uplands. It is quite common in the southern part of the state, on the sand plains near Brunswick and Oxford, and on Mt. Desert Island. It is not found in Piscataquis, Aroostook, Somerset and Washington Counties.

Branches are horizontal, rigid, contorted, and form an open crown. Pitch pine attains a diameter of 1-2 feet, and a height of only 30-40 feet. The trunk tapers rapidly and generally is straight. Often the tree produces cones when small. It is the only native pine that will produce "sprout" growth when apparently killed by such factors as fire.

The **bark** is rough, even on young stems and branches. On old trees, it is irregularly divided into continuous broad flat ridges, and is deep gray or reddish brown in color.

The **leaves** are in clusters of 3, and are from 3-5 inches long. They are dark yellow-green, stiff, standing at right angles to the branch.

The **cones** require 2 years to mature, are 1½ - 3½ inches long, borne on short stalks, hardly noticeable, and are often produced in clusters. A sharp, rigid curved prickle is produced on the tip of each scale. The cones open gradually during mid-winter. Seeds are released over a period of several years. Cones often remain on the trees 10-12 years. Fresh cones are used in wreath decorations.



The **wood** is moderately heavy, strong, hard and stiff. It is used for construction lumber and pulp. At one time considerable quantities of tar and turpentine were obtained from this tree.

Introduced Pines

SCOTS (SCOTCH) PINE

Pinus sylvestris L.

Scots pine is a native of northern Europe, and there grows to a tall timber tree in dense stands. It will grow on very poor soils. There are many strains of this species, some producing poor growth habits. This plus its susceptibility to snow, porcupine, and bird injury makes it undesirable to plant for timber production. Some strains are planted for Christmas trees.

The foliage is usually a dull blue - green.

Needles are short, stiff, twisted, $1\frac{1}{2}$ - 3 inches long and borne in fascicles of 2.

Cones are $1\frac{1}{2}$ - 2 inches long and numerous, even on comparatively young trees. The bark in the crown region of medium to large trees is of a conspicuous orange - brown coloration.



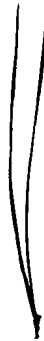
AUSTRIAN PINE

Pinus nigra Arnold

Austrian or European black pine is a native of Europe, has been planted as a decorative tree. It makes rapid growth even on very poor soils, and will flourish on limestone soils, or in the smoke of cities and factories. It also grows well near the sea because of its tolerance to salt spray.

The foliage is very dense and dark green, almost black in color. The long, sharp - pointed leaves are borne in fascicles of 2 and do not break cleanly when doubled between the fingers.

It closely resembles our native red pine, but the bark is darker brown to black and buds are pitch covered. Cones are 2 - $3\frac{1}{2}$ inches long, armed with sharp prickles.



MUGO PINE

Pinus mugo Turra

Mugo pine is a native of the mountainous regions of Europe. It has a dwarf, spreading form. Leaves are dark yellow - green, usually not twisted, 1 - 3 inches long and in clusters of 2. Cones are 1 - 2 inches long. It is planted for ornament and on dry, gravelly slopes, for roadside beautification.